

REMARKS

The Examiner is thanked for the thorough examination of the application. The specification has been amended to correct a minor error. No new matter is believed to be added to the application by this Amendment.

Status of the Claims

Claims 1, 3 and 5-36 are pending in the application.

Issues Under 35 U.S.C. §103(a)

Claims 1, 9-13, 15-20, 22 and 24-36 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Kim '828 (USP 5,184,828) in view of Farrally (*Science and Golf III*).

Claims 3, 6 and 21 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Kim '828 in view of Farrally and further in view of Hanada '537 (USP 4,483,537).

Claims 5 and 23 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Kim '828 in view of Horiuchi '312 (USP 5,702,312).

Applicants respectfully traverse.

The present invention pertains to a multi-piece solid golf ball that includes an inner core, an outer core formed on the inner core and one or more layers covering the core. As is typically embodied in claim 1 of the present invention, the inner core has a diameter of 30 to 40.4 mm and a surface hardness (JIS-C) of 60 to 85, and the center

hardness of the inner core is lower than the surface by 5 to 30. Also, the outer core has a thickness of 0.2 to 0.9 mm, and the surface hardness of the outer core is lower than the surface hardness of the inner core by 2 to 30. The outer core is formed from a rubber composition that includes not less than 40% of cis-1,4, bond polybutadiene, a crosslinking agent, an organic peroxide and a filler.

Another typical embodiment of the present invention can be found in claim 20, where the inner core has a diameter of 35.6 to 40.4 mm and a surface hardness (JIS-C) of 60 to 85, and the center hardness of the inner core is lower than the surface by 5 to 30. Also, the outer core has a thickness of 0.2 to 1.3 mm, and the surface hardness of the outer core is lower than the surface hardness of the inner core by 2 to 30. The outer core is formed from a rubber composition that includes not less than 40% of cis-1,4, bond polybutadiene, a crosslinking agent, an organic peroxide and a filler.

Distinctions of the invention over Kim '828, Hanada '537 and Horiuchi '312 have been placed before the Examiner in the Reply filed July 2, 2004. Farrally is newly applied.

Kim '828 fails to disclose a golf ball having an outer core with a thickness as small as the 0.2 to 0.9 mm range set forth in claim 1 of the present invention. At page 2 of the Office Action, the Examiner asserts that this thickness range can be derived from comparing the diameters of the inner and outer cores of the single reference of Kim '828. However, the Examiner fails to point out where in Kim (or the other references) the teaching or suggestion resides to compare the diameters.

To establish a *prima facie* case of obviousness, "the prior art reference (or references when combined) must teach or suggest all the claim limitations." MPEP §2143. In addition, if a reference needs to be modified to achieve the claimed invention "there must be a showing of a suggestion or motivation to modify the teachings of that reference to the claimed invention in order to support the obviousness conclusion." Sibia Neurosciences Inc. v. Cadus Pharmaceutical Corp., 225 F.3d 1349, 55 USPQ2d 1927 (Fed. Cir. 2000). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

At page 3 of the Office Action, the Examiner admits that Kim '828 does not explicitly disclose a hardness range difference for the outer core and inner core, but then asserts that using *cis* polybutadiene would yield this range (turning to Farrally for support).

The Examiner turns to Hanada '537 for teachings pertaining to co-crosslinking agents to reject claims 3, 6 and 21. The Examiner turns to Horiuchi '312 for teachings pertaining to ionomer resins such as SURLYNTM to reject claims 5 and 23.

At page 5, lines 17-20 of the Office Action, the Examiner asserts that a showing of criticality may overcome these rejections in his Response to Arguments:

After review of Kim et al. and the applicant's specification, it was noticed that the applicant provides no critical reason as to what benefit the smaller thickness range of the outer core has versus the broadly disclosed range and what benefit the smaller diameter range of the inner core has versus the broadly disclosed range.

However, this showing of criticality is clearly set forth in the present invention. For example, claim 20 limits the inner core diameter to 35.6 to 40.4 mm. If the inner core diameter is less than 35.6, then the golf ball would show poor performance. This is demonstrated by Comparative Example 6 (which is correctly Comparative Example 4), such as is set forth in Table 8 at page 37 of the specification. The inner core of Comparative Example 4 has a diameter to 35 mm, which is smaller than the present claim range. If an inner core is smaller, the outer core thickness or cover thickness becomes thicker because the integral golf ball has a fixed diameter. Accordingly, the outer core has a thickness of 2.0 in Comparative Example 4 in Table 8, but the other parameters are all within the range of instant claim 20. The golf ball of Comparative Example 4 shows poor performance, especially in shot feel and flight distance, as is shown in Table 11 at page 40 of the specification. This is similar to the description at page 13, lines 13 to 20 of the specification, in which 30 mm replaces 35.6 mm.

As a result, none of the combination of cited art references is sufficient to allege *prima facie* obviousness over the claimed invention. Further, the criticality of the claimed parameters of the present invention would overcome any obviousness that could be alleged.

These rejections are overcome and withdrawal thereof is respectfully requested.

Information Disclosure Statement

The Examiner is thanked for considering the information Disclosure Statement filed April 18, 2000, and for making the initialed PTO-449 form of record in the application most recently in the Office Action mailed August 5, 2003.

Foreign Priority

The Examiner has acknowledged foreign priority most recently in the Office Action mailed August 5, 2003.

The Drawings

The Examiner is respectfully requested to indicate whether the drawing figures are acceptable in the next official action.

Conclusion

The Examiner's rejections have been overcome, obviated or rendered moot. No issues remain. The Examiner is accordingly respectfully requested to place the application in condition for allowance and to issue a Notice of Allowability

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert E. Goozner, Ph.D. (Reg. No. 42,593) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant(s) respectfully petitions for a three (3) month extension of time for filing a reply in connection with the present application, and the required fee of \$1020.00 is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

By 

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